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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,007	03/01/2004	Paul Tyrell	200310624-1	1269

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EXAMINER
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FAISON, VERONICA F

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/791,007

Applicant(s)

TYRELL, PAUL

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-27 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-11, and 13-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rehman (US Patent 6,177,498).

Rehman teach a solvent system has been found which aids in start-up, drop ejection, decap and high frequency firing above 10 kHz for inks that comprise latex polymers. Two solvents 3-hexyne-2,5-diol and 1,2-octanediol in combination improve printability in latex polymer-containing ink jet ink which comprise one or more pigments and a vehicle comprising at least one organic, water-soluble solvent and water (abstract). The reference further teaches black inks comprising a pigment and a vehicle, wherein the about 5 to 50 percent by weight of a water-soluble organic solvent,

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about 0.05 to 10 percent by weight of a pigment, about 0.005 to 50 percent of durable latex polymer and water, in addition to the ester or diol/triol additive (col. 3 lines 26-37). The reference also teaches that the colorant may be self-dispersing pigment. The organic groups attached to the colorant that make the pigment self-dispersing include sulfonic acid, phosphonic acid, carboxylic acid, ammonium, quaternary ammonium or phosphonium group (col. 3 lines 39-56). The method for modifying pigments to be self-dispersing is treatment of a carbon black pigment with aryl diazonium salts comprising at least one acidic functional group, wherein the aryl diazonium salts include 4-aminobenzoic acid (col. 3 lines 63+). The vehicle of the ink composition comprises one or more co-solvents and water. The reference teaches that the preferred solvents include 1,5-pentanediol, 1,3,5-(2-methyl)-pentanetriol, and 3-methoxy-3-methylbutanol (col. 5 line 60-col. 6 line 21). The reference further teaches that additives such as potassium hydroxide, sodium hydroxide, and triethanolamine amine may be present in the ink composition (col. 6 lines 20-36). When the reference has a firing frequency of 15 to 25 kHz the reference appears to the claimed invention.

And in the alternative when the firing frequency is just outside of the claimed range a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skill in the art would have expected them to have the same properties *Titanium Metals Corp of America v. Banner*, 778 F.2d 775, 227 USPQ 773.

Claims 21 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rehman (US Patent 6,177,498) in view of Komatsu et al (US Patent 6,379,443).

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Rehman is described above, but fails to teach ammonium salt.

Komatsu et al teach an ink composition comprising additive such as amines including triethanolamine and inorganic salts such as potassium hydroxide, sodium hydroxide, ammonium hydroxide, and quaternary ammonium hydroxide including tetramethylammonium.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced potassium hydroxide and sodium hydroxide with ammonium hydroxide, and quaternary ammonium hydroxide including tetramethylammonium because the substitution of art recognized equivalents as shown by Komatsu et al would have been within the level of ordinary skill in the art.

Claims 2, 12, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rehman (US Patent 6,177,498) as applied to claims 1, 3-9, 11, 13-21, and 23-27 above, and further in view of Belmont (US Patent 5,571,311).

Rehman is described above, but fails to teach the pigment particle size.

Belmont teaches an aqueous ink jet ink composition comprising a carbon black product that is being treated with diazonium salts (abstract and col. 4 lines 36+). The reference further teaches in the examples particles sizes that overlap Applicant's claimed range, so not to clog the printhead nozzle (col. 2 lines 23-37).

Therefore it would have been obvious to one of ordinary skill in the art to use the carbon black particle size as taught by Belmont in the ink composition of Rehman so that the carbon black particle do not clog the print nozzles.

***Response to Arguments***

Applicant's arguments filed 1-24-05 have been fully considered but they are not persuasive.

Applicant argues that the ink composition of Rehman may be able to be fired at a high firing frequency of 100 kHz or even 1000 kHz, would be recognized by one skilled in the art to be unattainable in any practical sense.

The Examiner agrees with this statement, however is it not unreasonable that the ink composition taught by Rehman would fire at a frequency of 15 to 25 kHz as claimed by Applicant; considering that the reference teaches a high firing frequency above 10 kHz and that the term "high" is a relative term in which Applicant has arbitrary picked to be 100 or even 1000 kHz. Applicant has not proven that the composition as taught by Rehman would not fire in the claimed range given that similar compositions with similar amounts would provide clear and convincing evidence that would lead one to conclude that the ink composition would fire at the same firing frequency as claimed by Applicant. Absent tangible evidence to the contrary and/or unexpected results of the ink composition as claimed by Applicant the 102/103 rejection has been maintained.

Applicant also argues that the only time that the methylated pentanetriol is added to the ink is when it is added in conjunction with the 3-hexyne-2,5-diol and 1,2-octanediol and that the reference never teaches or suggests that methylated triols per se in an ink vehicle can be used to significantly improve firing frequency speed.

The Examiner would like to point out that a reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed. Cir. 1989); *In re*

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*Bode* 193 USPQ 12 (CCPA 1976); *In re Lamberti* 192 USPQ 278 (CCPA 1976); *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Preda* 159 USPQ 342 (CCPA 1968); *In re Van Mater* 144 USPQ 421 (CCPA 1965); *In re Jacoby* 135 USPQ 317 (CCPA 1962); *In re LeGrice* 133 USPQ 365 (CCPA 1962). Applicant uses the term comprising in the claims that leaves the claim open for the inclusion of unspecified ingredients even in major amounts. *Ex parte Davis et al.*, 80 USPQ 448 (PTO Bd. App. 1948). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., significantly improve firing frequency speed) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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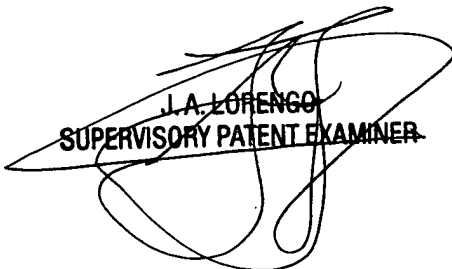
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VFF  
4-29-05

  
J.A. LORENGO  
SUPERVISORY PATENT EXAMINER